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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/589,162	08/10/2006	Hubert Spreitzer	14113-00041-US	6856
23416 7590 12/09/2009 CONNOLLY BOVE LODGE & HUTZ, LLP P O BOX 2207 WILMINGTON, DE 19899				
EXAMINER				
THOMAS, JAISON P				
ART UNIT		PAPER NUMBER		
1796				
MAIL DATE		DELIVERY MODE		
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/589,162

**Applicant(s)**

SPREITZER ET AL.

**Examiner**

Jaision P. Thomas

**Art Unit**

1796

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 8/10/2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) 21-26 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 August 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/GS-08)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_
- Paper No(s)/Mail Date 8/10/2006/8/31/2006

**DETAILED ACTION**

***Election/Restrictions***

1. Applicant's election with traverse of Group I, Claims 1-20 in the reply filed on 9/30/2009 is acknowledged. The traversal is on the ground(s) that there is no burden on the Examiner to search non-elected claims and that the search is overlapping. This is not found persuasive because the reasons stated in the Restriction requirement dated 9/18/2009. Specifically, the search for compositions versus devices versus methods can span numerous classes and subclasses and would present a burden to the Examiner to search all possibilities.

The requirement is still deemed proper and is therefore made FINAL.

2. The Examiner notes the phrase "preferably having" in Claim 19, line 2 and interprets the claim as only requiring the broader range and does not interpret the phrase as further limiting the claim.

***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claim 9 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The Examiner is unclear as to whether the matrix polymer of Claim 9 is semi-conducting or non-conducting. For purposes of examination, the Examiner construes the material of Claim 9 as requiring a matrix material which can be the same as the material of Claim 1.

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior

art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1-4,7,10-13 and 17-20 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Bae et al. (US Patent App. Pub. No. 2003/0127977).

Bae et al. teaches the production of an electroluminescence (EL) device wherein the EL material, described as a polymer (pg. 2, para. 0020), is blended with a solvent (Abstract) wherein the solvent is comprised of three materials including xylenes and tetralin in the first solvent, dodecane or ethylene glycol as the second solvent and toluene as the third solvent (pg. 3, para. 0045).

With respect to the solvent property limitations of Claims 2,3 and 10-13, or the molecular weight limitation of Claim 7, the Examiner respectfully submits said limitations would be inherently possessed by the prior art as the prior art teaches similar or identical solvents being used to dissolve organic semiconductive materials.

Alternatively, any modifications, for example such as selection of solvents or the molecular weight of the polymer, which are required to meet the limitations are within the purview of one having ordinary skill in the art.

8. Claims 1-4, 6-13 and 16-20 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Cao et al. (US Patent 5232631).

Cao et al. teaches a solution of polyaniline compositions wherein the polyaniline is dissolved in a variety of solvents including mixtures of solvents. Examples include toluene, xylene and higher alkanes and higher alcohols (Abstract, Col. 13, lines 36-68). The composition can additionally contain other binder resins (Col. 4, lines 45-54).

With respect to the solvent property limitations of Claims 2, 3 and 10-13, or the molecular weight limitation of Claim 7, the Examiner respectfully submits said limitations would be inherently possessed by the prior art as the prior art teaches similar or identical solvents being used to dissolve organic semiconductive materials.

Alternatively, any modifications, for example such as selection of solvents or the molecular weight of the polymer, which are required to meet the limitations are within the purview of one having ordinary skill in the art.

9. Claims 1-13 and 16-20 are rejected under 35 U.S.C. 102(a)/(e) as anticipated by or, in the alternative,

under 35 U.S.C. 103(a) as obvious over Yu et al. (US Patent App. Pub. No. 2005/0014023).

Yu et al. teaches a polymer formed from an aromatic metal complex (Abstract) further containing other polymers such as polythiophenes and polyfluorenes (pgs. 8-8, para. 0070). The composition additionally contains a variety of solvents and combinations (pg. 9, para. 0072).

With respect to the solvent property limitations of Claims 2,3 and 10-13, or the molecular weight limitation of Claim 7, the Examiner respectfully submits said limitations would be inherently possessed by the prior art as the prior art teaches similar or identical solvents being used to dissolve organic semiconductive materials.

Alternatively, any modifications, for example such as selection of solvents or the molecular weight of the polymer, which are required to meet the limitations are within the purview of one having ordinary skill in the art.

10. Claims 1-13 and 16-20 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Brown et al. (WO 02/45184 with equivalent US Patent App. Pub. No. 2004/0038459 being cited and referenced below)).

Brown et al. teaches compositions to create a field effect transistor which is comprised of an organic semiconductor and a binder (Abstract) wherein the semiconductor is described on pg. 2, para. 0027, (see also pg. 4 of WO reference) and solvents described on pg. 5, para. 0054 (see also pgs. 10-11 of WO reference) which include "solvent blends". The prior art suggests that concentrations of solvents can be varied to achieve optimum solubility.

With respect to the solvent property limitations of Claims 2,3 and 10-13, or the molecular weight limitation of Claim 7, the Examiner respectfully submits said limitations would be inherently possessed by the prior art as the prior art teaches similar or identical solvents being used to dissolve organic semiconductive materials.

Alternatively, any modifications, for example such as selection of solvents or the molecular weight of the polymer, which are required to meet the limitations are within the purview of one having ordinary skill in the art.

11. Claims 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cao et al. or Bae et al. or Yu et al. or Brown et al..



The references are relied upon as disclosed above. However, none of the references teach the percentages of respective solvents as required by Claims 14 and 15.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to optimize the solvent component concentrations of the references cited above through routine experimentation for best results. As to optimization results, a patent will not be granted based upon the optimization of result effective variables when the optimization is obtained through routine experimentation unless there is a showing of unexpected results which properly rebuts the prima facie case of obviousness. It is notoriously well known in the art that the solubility of organic materials in mixed solvents requires optimization of the solvent blend in order to achieve the maximum dispersion and thus a desired outcome of improved processability. Further, the broad ranges as outlined in Claims 14 and 15 have not been shown as a patentably distinguishable improvement over comparative examples. See MPEP 2144.05.

### ***Conclusion***

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jaison P.

Thomas whose telephone number is (571) 272-8917. The examiner can normally be reached on Mon-Fri 9:30 am to 6:00 pm.

13. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy P. Gulakowski can be reached on (571) 272-1302. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/J. P. T./  
Examiner, Art Unit 1796

/Mark Kopec/  
Primary Examiner, Art Unit  
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